(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 427 465 A3**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **90312005.3**

(22) Date of filing: **01.11.90**

(51) Int. Cl.5: **G07F 7/10**, G07C 9/00, G06F 1/00

(30) Priority: **09.11.89 US 433821**

(43) Date of publication of application:
15.05.91 Bulletin 91/20

(84) Designated Contracting States:
DE FR GB IT

(88) Date of deferred publication of the search report:
24.07.91 Bulletin 91/30

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(54) Databaseless security system.

(57) An improved security system, including a portable smart card (500) and a host computer (600), eliminates the need for the computer to store individual personal identification (ID) numbers for each user seeking access to the computer. Instead, the computer stores a first encryption algorithm E_1 used in converting a particular identification number $(ID)_n$ into a secret code S_n for that particular user. S_n also exists within the memory of the smart card having been loaded into its memory at the time of issue. A challenge number C is generated by the computer and transmitted to the smart card. Within the smart card and the computer, microprocessors respond to the challenge number C, the secret code S_n, and a second encryption algorithm E_2 in order to generate response numbers R_n and R'_n respectively. Thereafter, R_n is transmitted to the computer where it is compared with R'_n. A favorable comparison is necessary for gaining access to the computer.

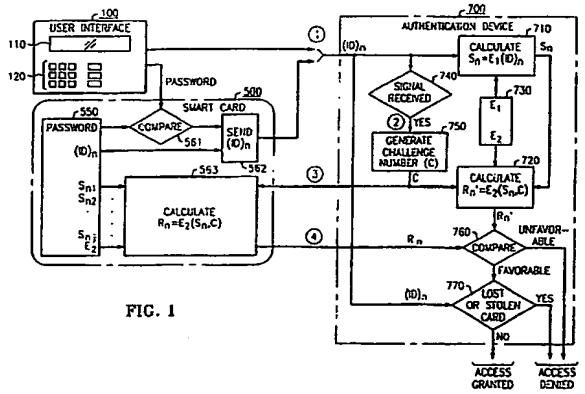

FIG. 1

EP 0 427 465 A3

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EUROPEAN SEARCH REPORT

Application Number

EP 90 31 2005

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	EP-A-0 029 894 (IBM) * abstract; claim 1 *	1,9	G 07 F 7/10 G 07 C 9/00 G 06 F 1/00
A	EP-A-0 131 421 (AMERICAN TELEPHONE AND TELEGRAPH COMPANY) * abstract *	1,9	
A	EP-A-0 281 059 (SIEMENS) * abstract *	1,9	
A	US-A-4 310 720 (CHECK) * abstract *	1,9	
A	EP-A-0 114 773 (CII HONEYWELL BULL) * abstract *	1,9	
A	EP-A-0 281 058 (SIEMENS) * abstract *	1,9	
A	EP-A-0 284 133 (TRT) * claim 1 *	1,9	
D,A	US-A-4 453 074 (WEINSTEIN)		TECHNICAL FIELDS SEARCHED (Int. Cl.5) G 07 F G 07 C G 06 F
D,A	US-A-4 471 216 (HERVE) * abstract *	1,9	

The present search report has been drawn up for all claims

Place of search	Date of completion of search	Examiner
The Hague	30 May 91	TACCOEN J-F.P.L.

CATEGORY OF CITED DOCUMENTS

X: particularly relevant if taken alone
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A: technological background
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